



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,827	11/21/2003	Roman J. Hamerski	12263-16	1334
27526	7590	06/15/2005	EXAMINER	
BLACKWELL SANDERS PEPER MARTIN LLP			ROSE, KIESHA L	
4801 Main Street			ART UNIT	
Suite 1000			PAPER NUMBER	
KANSAS CITY, MO 64112			2822	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/718,827

Applicant(s)

HAMERSKI ET AL.

Examiner

Kiesha L. Rose

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/11/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the election filed 18 May 2005.

Election/Restrictions

Claims 11-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method of making a semiconductor device, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 18 May 2005.

Applicant's election without traverse of claims 1-10 in the reply filed on 18 May 2005 is acknowledged.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 recites the limitation "the third layer" in claim 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "first layer dopant" in claim 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 discloses the first layer dopant to comprise boron and

Art Unit: 2822

cesium and the current localization region to comprise phosphorus, the specification does not disclose this limitation. The specification discloses that cesium is used as the dopant for the current localization region.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-6 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Frisina (U.S. Patent 6,809,383).

Frisina discloses a high voltage semiconductor device (Fig. 4) that contains a first layer (3) of semiconductor material of a first layer conductivity type with first and second sides where the first layer is formed of arsenic, a second layer (2) of semiconductor material of a second conductivity type having first and second sides with the first side of

Art Unit: 2822

the first layer adjacent the second side of the second side, a current localization region (20) positioned in the first layer of semiconductor material and in the second layer and adjacent to the first side of the first layer and extending beyond the first side of the first layer into the second layer, the first and second conductivity are the same conductivity N, the second layer varies in width, such that a central portion of the second layer is thinner than sides of the second layer

A third layer (1) of semiconductor material of a third conductivity type having first and second sides where the first side is adjacent the second side of the second layer, wherein the distance in a central portion of the device from the current localization region to the third layer is less than a distance from the first layer to the third layer at the edge of the device.

The current localization region dopant is substantially the same as the first layer dopant where the dopant for both layers is boron (Column 3, lines 6-7 and 17-30)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frisina in view of Porter et al. (U.S. Publication 2002/0094627).

Frisina discloses all the limitations except for the current localization doped with phosphorus. Whereas Porter discloses an electrostatic discharge protection device (Fig. 5) that contains a first layer (75) and a current localization region (95/97) where the first layer is formed of arsenic and the current localization region can be formed of phosphorus. Since the first layer is formed of arsenic and current localization is formed of phosphorus the current localization region diffuses faster than the first layer dopant. The conductivity of the first layer and current localization region can be interchanged from n-type to p-type. (Page 3, Paragraph 24) The first layer and current localization are both n-type and doped with either arsenic or phosphorus since doping a silicon layer to make it an n-type conductivity is implant with arsenic or phosphorus which is well known in the art. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Frisina by incorporating the current localization region to be doped with phosphorus since the change of conductivity is well known in the art and to make the conductivity n-type it is doped with either arsenic or phosphorus as taught by Porter.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiesha L. Rose whose telephone number is 571-272-1844. The examiner can normally be reached on M-F 8:30-6:00 off 2nd Mondays.

Art Unit: 2822

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


KLR


AMIR ZARABIAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800